

# **ADVANCED HYDROLOGIC PREDICTION SERVICES**

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Eastern Montana - Spring 2002 Implementation

Program and Products Guide for Customers

# AHPS PROGRAM

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Spring 2002 Implementation

- Purpose
  - < Provide forecasts further into the future
  - < Include a measure forecast uncertainty
- Technique used is called Ensemble Streamflow Prediction (ESP)

# ENSEMBLE STREAMFLOW PREDICTION (ESP)

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- Based on historical record at each forecast location
- May be adjusted with climatologic forecasts
- Forecast uncertainty is derived from statistical analysis of output

# ENSEMBLE STREAMFLOW PREDICTION (ESP)

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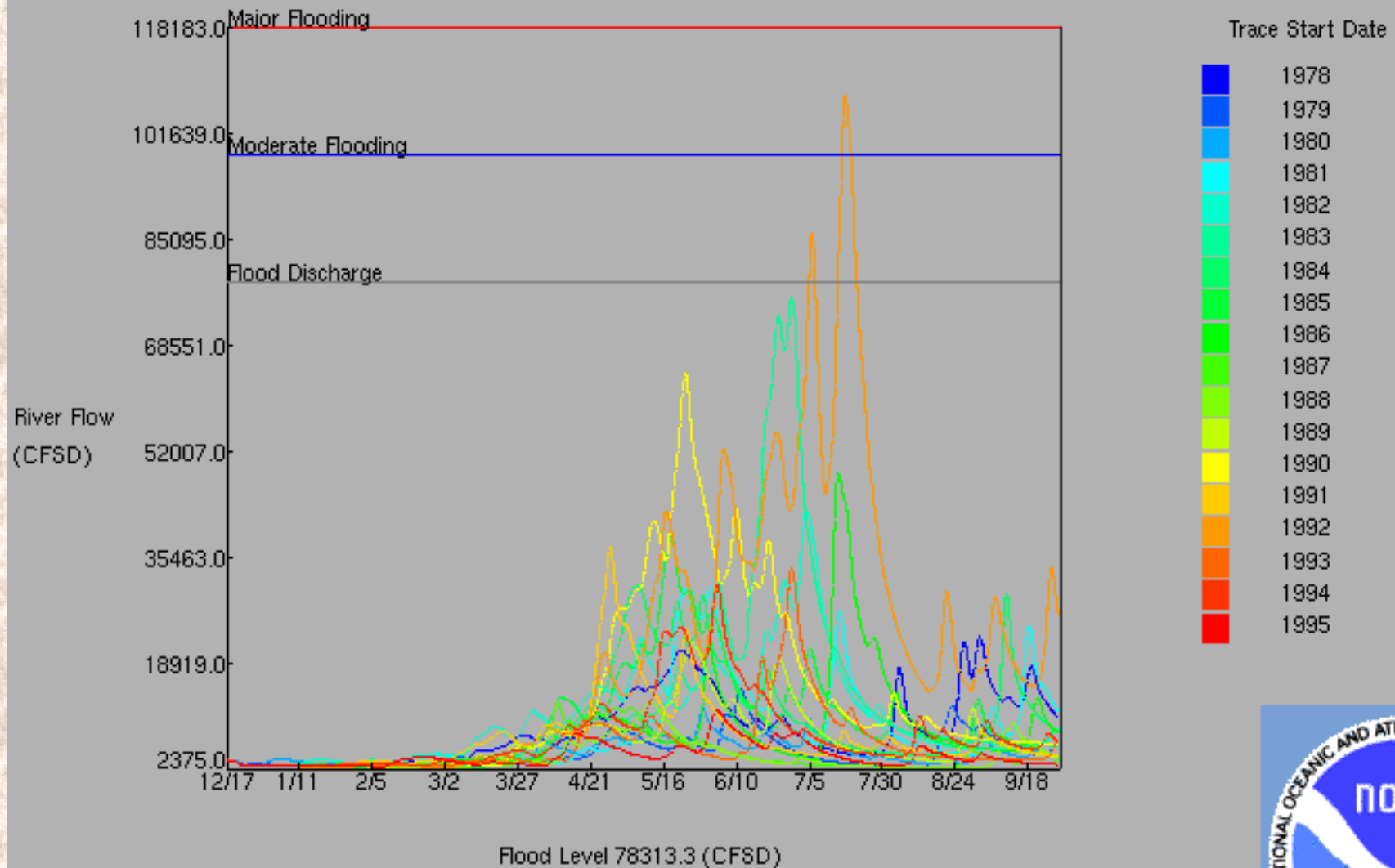
- Basic ESP output is a set of forecast traces - spaghetti plot
- Products issued are derived from the basic output

ESP Trace Ensemble of MISSOURI R at FT BENTON MT

Latitude: 47.8 Longitude: 110.7

Forecast for the period 12/17/2001 12h - 9/29/2002 6h

This is a conditional simulation based on the current conditions as of 12/17/2001



# AHPS PRODUCTS

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Spring 2002 Implementation

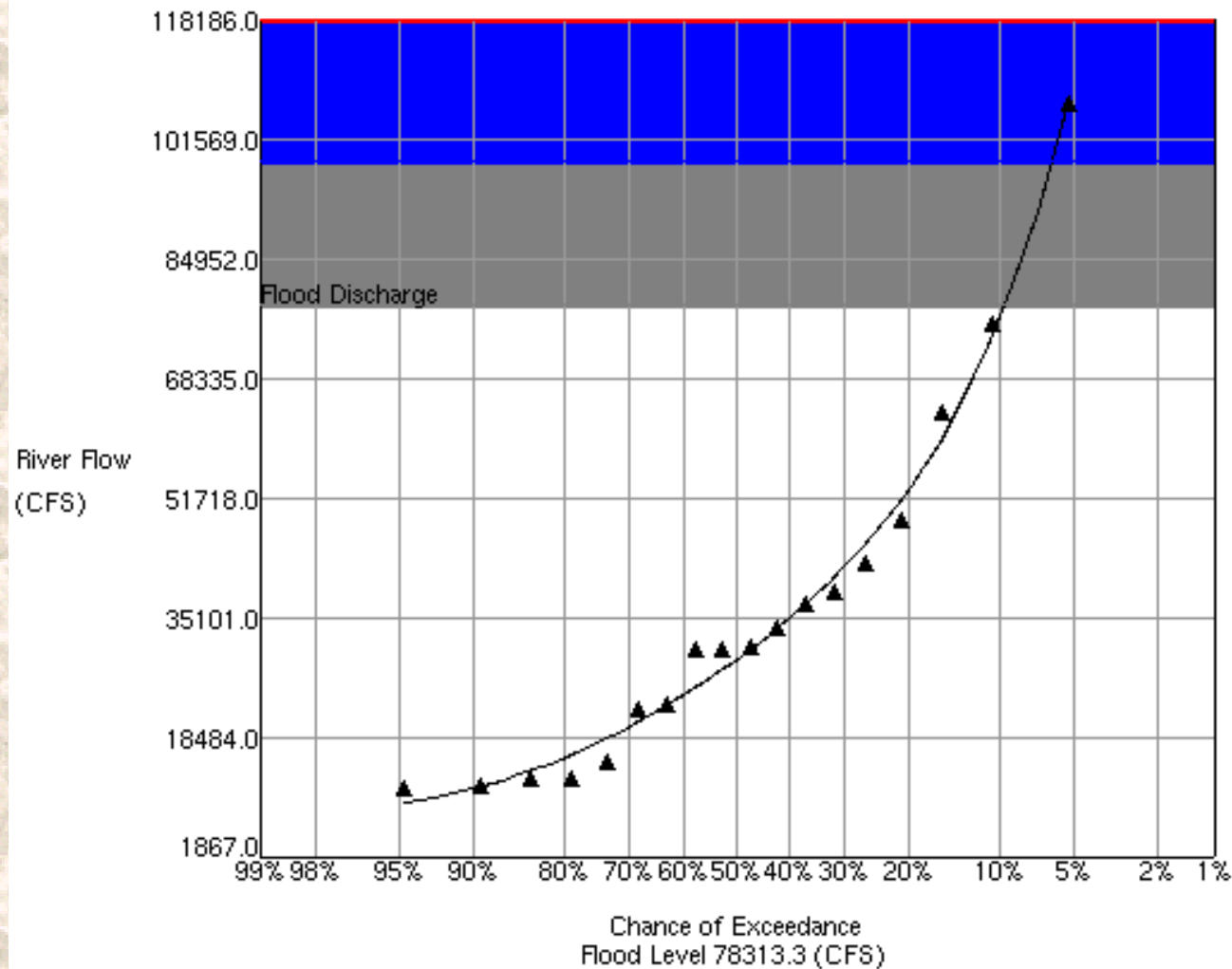
- **Types of Products**

- < Exceedance for Time Period
- < Weekly Exceedance During Time Period

- **Forecast Type**

- < Discharge
- < Stage
- < Volume

FT BENTON MT – MISSOURI R  
Latitude: 47.8 Longitude: 110.7  
Forecast for the period 12/17/2001 – 10/1/2002  
This is a conditional simulation based on the current conditions as of 12/17/2001



- Major Flooding  
Above 118180.0 CFS.
- Moderate Flooding  
98246.6–118180.0 CFS.
- Minor Flooding  
78313.3–98246.6 CFS.

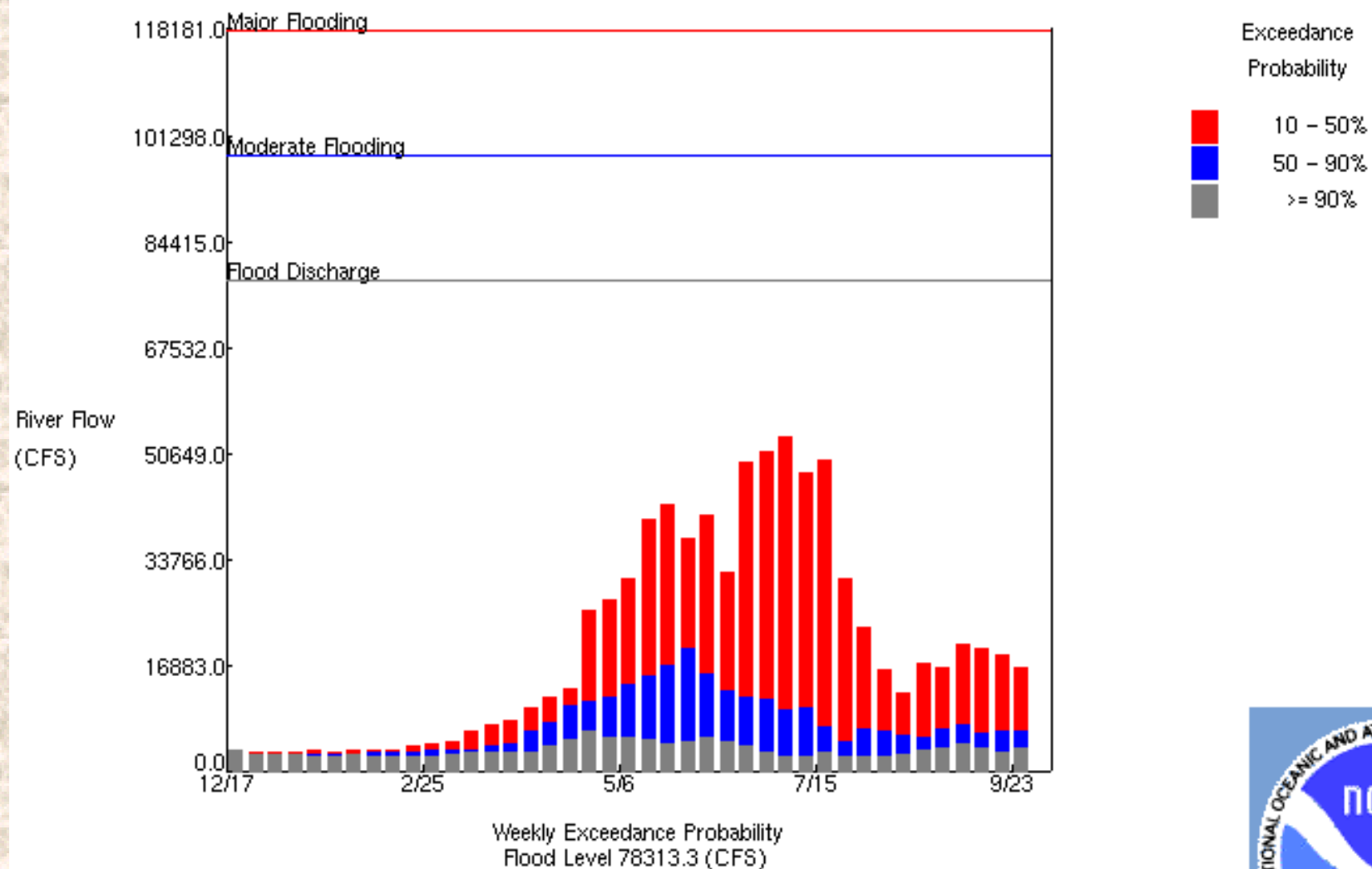


# FT BENTON MT - MISSOURI R

Latitude: 47.8 Longitude: 110.7

Forecast for the period 12/17/2001 - 9/30/2002

This is a conditional simulation based on the current conditions as of 12/17/2001



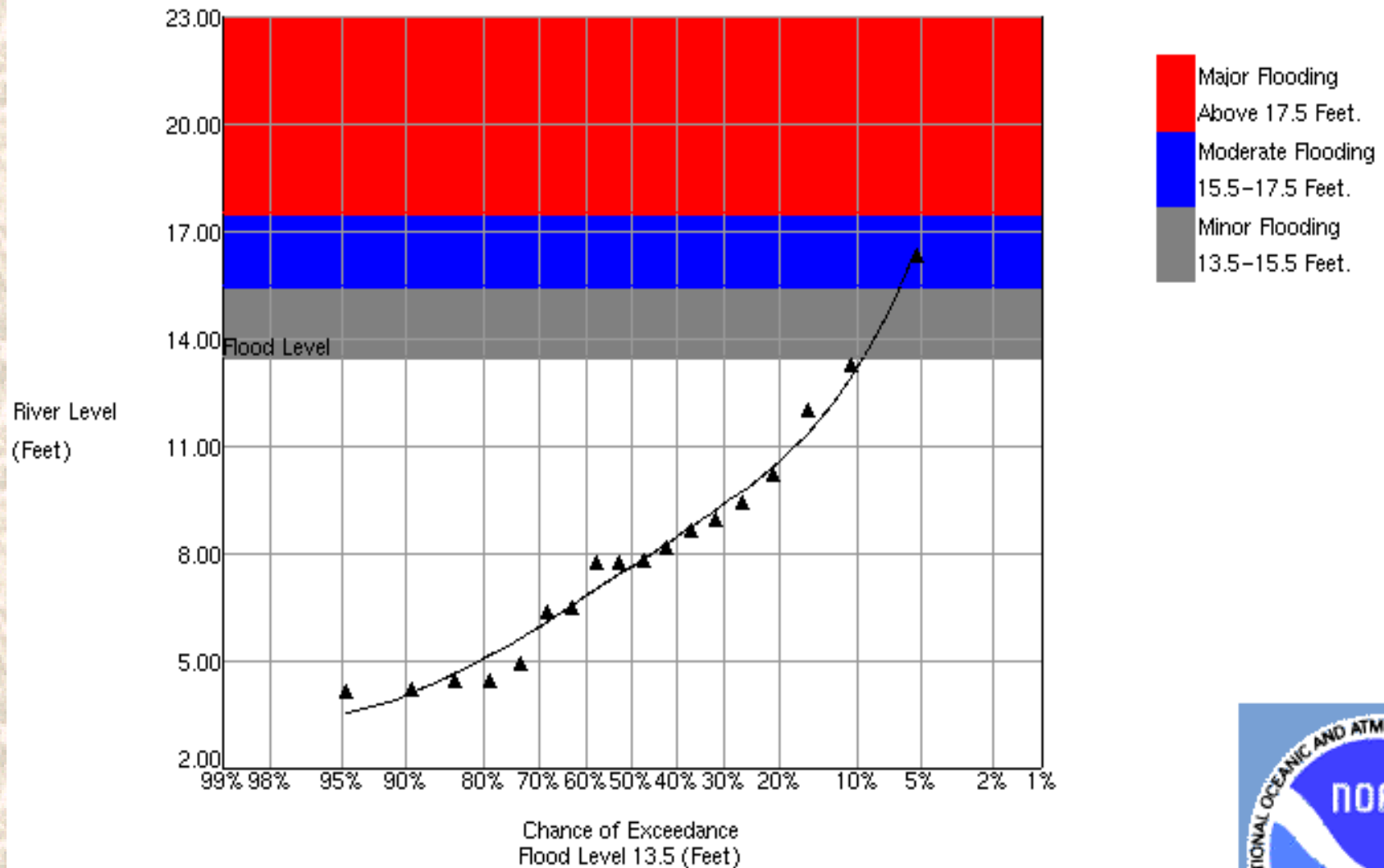


FT BENTON MT - MISSOURI R

Latitude: 47.8 Longitude: 110.7

Forecast for the period 12/17/2001 - 10/1/2002

This is a conditional simulation based on the current conditions as of 12/17/2001

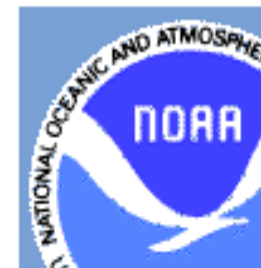
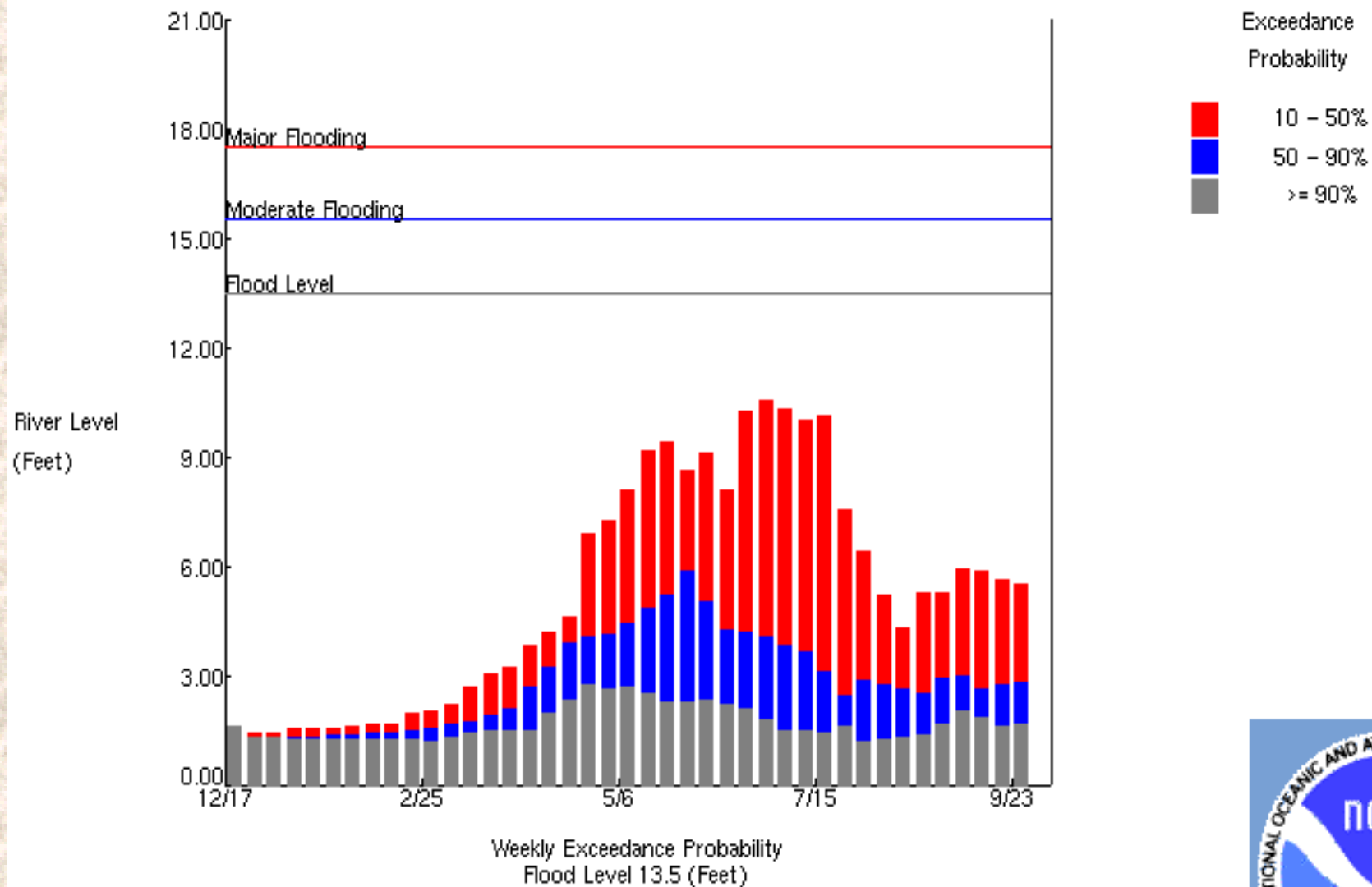


# FT BENTON MT - MISSOURI R

Latitude: 47.8 Longitude: 110.7

Forecast for the period 12/17/2001 - 9/30/2002

This is a conditional simulation based on the current conditions as of 12/17/2001

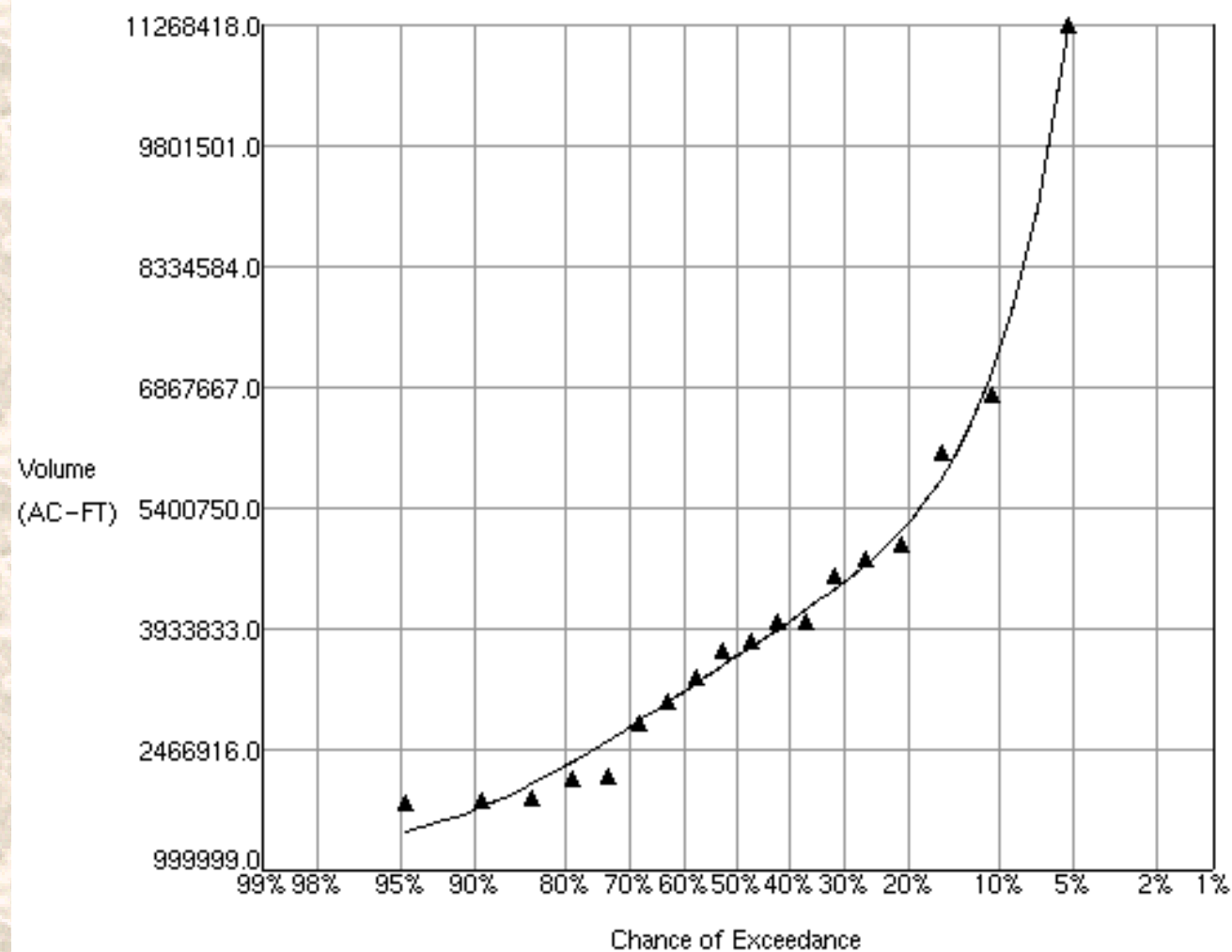


FT BENTON MT - MISSOURI R

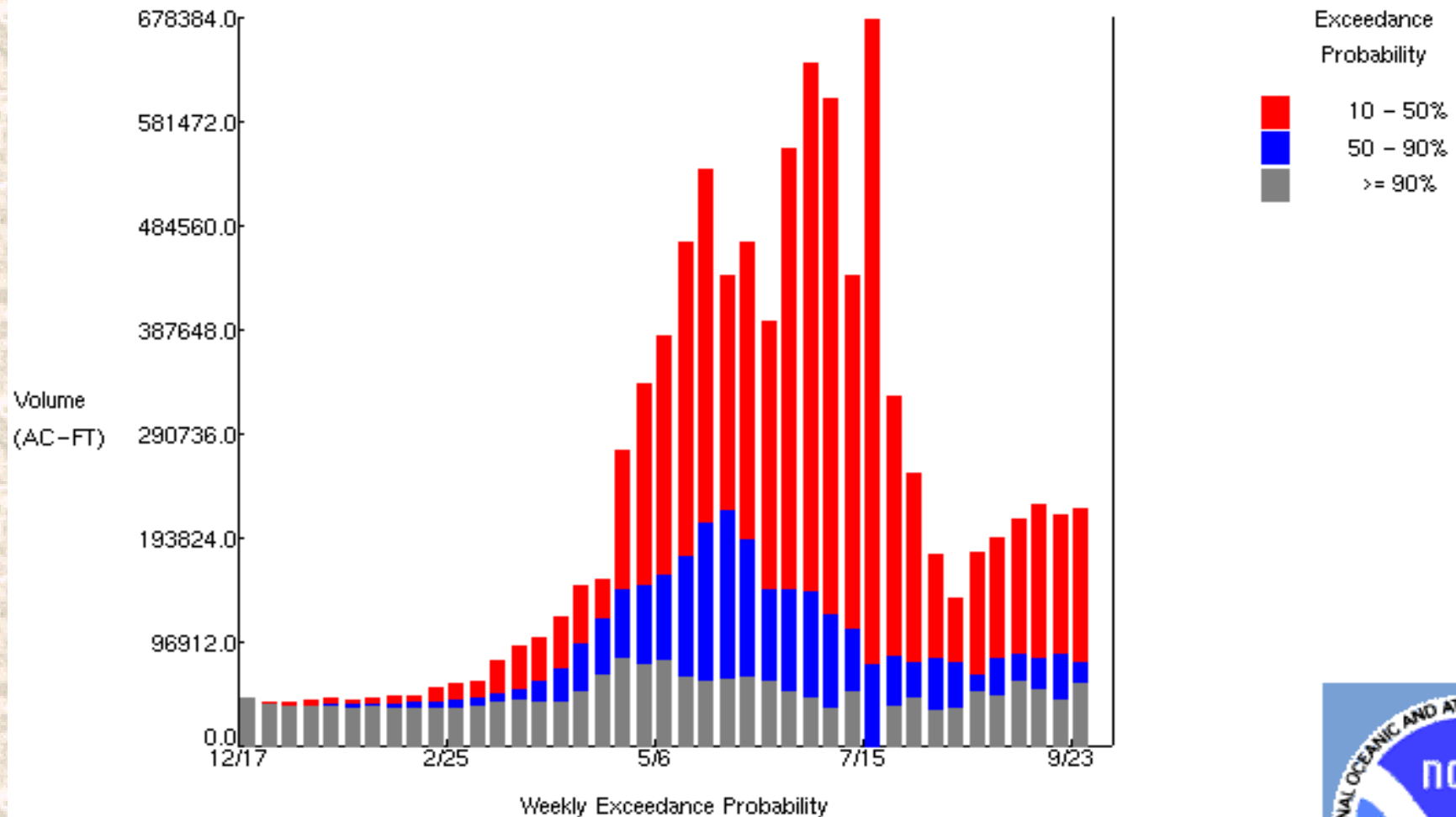
Latitude: 47.8 Longitude: 110.7

Forecast for the period 4/1/2002 - 10/1/2002

This is a conditional simulation based on the current conditions as of 4/1/2002



FT BENTON MT - MISSOURI R  
Latitude: 47.8 Longitude: 110.7  
Forecast for the period 12/17/2001 - 9/30/2002  
This is a conditional simulation based on the current conditions as of 12/17/2001



# AHPS PRODUCTS

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Spring 2002 Implementation

AHPS Products can be found on the follow  
web sites:

[www.wrh.noaa.gov/Glasgow/hydro.shtml](http://www.wrh.noaa.gov/Glasgow/hydro.shtml)

[www.wrh.noaa.gov/Billings/hydro.shtml](http://www.wrh.noaa.gov/Billings/hydro.shtml)

[www.wrh.noaa.gov/greatfalls/hydro.html](http://www.wrh.noaa.gov/greatfalls/hydro.html)